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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/536,366	03/27/2000	Christopher J. Edge	53492USA1A	3630

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EXAMINER	
CHUNG, DANIEL J	

ART UNIT	PAPER NUMBER
2672	

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16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/536,366	EDGE ET AL.	
	Examiner	Art Unit	
	Daniel J Chung	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 25-46 are presented for examination. This office action is in response to the amendment filed on 12-10-2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25,28-29,31-33,35-38,41 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swen et al (5,806,081) in view of Liang (5,579,031)

Regarding claim 25, Swen et al discloses that the claimed feature of a system comprising:

A source device profile interpreter ["color space conversion"; 52 in "colorsync utilities"; 34] that interprets a source device profile [36] to convert coordinates in a source device color space to a device independent color space (See Fig 2, Fig 3, col 5 line 3-23, col 8 line 3-12)

A destination device profile interpreter [52] that interprets a destination device profile [38] to convert coordinates in a destination device color space to the device independent color space (See Fig 2, Fig 3, col 5 line 3-23, col 8 line 3-12)

A color transformer [34] that generates a color map [CMM] defining a relationship ["matching"] between the source and destination device color spaces based on the converted coordinates and user preferences [i.e. "a control panel interface"] specified by a user independently of the source and destination device profiles. (See Fig 2, Fig 3, col 2 line 20-31, col 6 line 37-54)

Swen et al does not specifically disclose that "generating a color map use of both converted coordinates produced by interpretation of source and destination device profiles and user preferences". However, Liang teaches the use of the colorimeter 36 for measuring color patches 132 and 134 for compiling 2 transformation profiles, which is the two LUTs, for generating two respective set of device independent color values, which are the 2 Lab color spaces (models 140, 142), and further constructing a color map describing a relationship between the color imaging system using the color conversion using LUT 128. (See col 10 line 64-67, col 11 line 1-9, col 12 line 67-col 13 line 6, Fig 7-8) It would have been obvious to one skilled in the art to incorporate the teaching of Liang into the teaching of Swen et al, in order to provide higher quality color reproduction/mapping with easy and user friendly manner, as such improvement is also advantageously desirable in the teaching of Swen et al for obtaining the closest CMMs, thereby producing optimized result.

Regarding claim 28, Swen et al discloses that the color transformer adjusts the source and destination device profile interpreters based on the user preferences. (See Fig 2, Fig 3, col 2 line 20-31, Also See col 10 line 64-67, col 11 line 1-9, col 12 line 67-col 13 line 6, Fig 7-8 in Liang)

Regarding claim 29, Swen et al fails to teach that the source and destination profile interpreters are configured as removable plug-in modules for use by the color transformer. However, having removable plug-in modules [i.e. external device in computer systems] in similar system is well known in the art at the time of Applicant's invention, in order to reduce physical size of system. Therefore, it would have been obvious to one skilled in the art to include "a removable plug-in modules" into the teaching of Swen et al.

Regarding claim 31, Swen et al discloses that the source and destination device profile interpreters are configured based on pleasing color corrections. (See Fig 2, Fig 3)

Regarding claim 32, refer to the discussion for claim 25 hereinabove, Liang further discloses that the color transformer generates the color map in part by reducing color error between the converted coordinates from the source and destination device profile interpreters. (See col 11 line 10-67, col 12 line 1-41)

Regarding claims 33 and 35, refer to the discussion for claim 25 hereinabove, Liang further disclose that the source and destination device profile defines a forward transformation, and the source and destination device profile interpreters use forward transformation profiles to produce the converted coordinates, and the color transformer adjusts coordinates in the destination device color space to reduce the color error, the color map being based in part on the adjusted coordinates in the destination device color space. (See col 10 line 64-67, col 11 line 1-67, col 12 line 1-41, col 12 line 67-col 13 line 6, Fig 7-8)

Regarding claims 36 and 37, refer to the discussion for claim 25 hereinabove, Liang further disclose that the color map includes a look-up table/a mathematical expression. (See col 10 line 64-67, col 11 line 1-67, col 12 line 1-41, col 12 line 67-col 13 line 6, Fig 7-8)

Regarding claims 38, 41 and 44, claims 38, 41 and 44 are similar in scope to the claim 25, and thus the rejection to claim 25 hereinabove is also applicable to claims 38, 41 and 44.

Claims 26-27,30,34,39-40,42-43 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swen et al (5,806,081) and Liang (5,579,031), further in view of Rozzi (6.232,954)

Regarding claims 26 and 27, Swen et al fails to teach that the user preferences include illuminant functions/ observer functions. However, such limitations are shown in the teaching of Rozzi. (See Fig 1, col 5 line 36-42, col 12 line 61-65) It would have been obvious to one skilled in the art to include such illuminant/observer functions into the teaching of Swen et al, in order to provide high-accuracy color reproduction, which is preferable to users, as such improvement is also advantageously desirable in the teaching of Swen et al.

Regarding claim 30, Swen et al does not explicitly discloses that the source and destination device profile interpreters are configured based on white and black point parameters to account for color variations between media and colorants used by different color display device. However, such limitation is shown in the teaching of Rozzi. (See col 12 line 66-col 13 line 5) It would have been obvious to one skilled in the art to include white and black point parameters into the teaching of Swen et al, in order to provide high-accuracy color reproduction, as such improvement is also advantageously desirable in the teaching of Swen et al for proper color conversion.

Regarding claim 34, Swen et al does not specifically discloses that the source device profile contains raw spectral data that characterizes a source device, and the destination device profile contains raw spectral data that characterizes a destination device. However, Rozzi discloses that "the spectral raw data used in generating the

model" (See col 5 line 34-36) It would have been obvious to one skilled in the art to include "the spectral raw data" into the teaching of Swen et al, in order to provide high-accuracy color reproduction with efficient manner, as such improvement is also advantageously desirable in the teaching of Swen et al for proper color conversion.

Regarding claims 39-40,42-43 and 45-46, claims 39-40,42-43 and 45-46 are similar in scope to the claims 26-27, and thus the rejections to claims 26-27 hereinabove are also applicable to claims 39-40,42-43 and 45-46.

Claims 25, 38, 41 and 44 are once again rejected under 35 U.S.C. 103(a) as being unpatentable over Swen et al (5,806,081) in view of Lindbloom "Accurate Color Reproduction for Computer Graphics Applications" (Computer Graphics, Vol 23, Number 3, July 1989)

Regarding claim 25, Swen et al discloses that the claimed feature of a system comprising:

A source device profile interpreter ["color space conversion"; 52 in "colorsync utilities"; 34] that interprets a source device profile [36] to convert coordinates in a source device color space to a device independent color space (See Fig 2, Fig 3, col 5 line 3-23, col 8 line 3-12)

A destination device profile interpreter [52] that interprets a destination device profile [38] to convert coordinates in a destination device color space to the device independent color space (See Fig 2, Fig 3, col 5 line 3-23, col 8 line 3-12)

A color transformer [34] that generates a color map [CMM] defining a relationship ["matching"] between the source and destination device color spaces based on the converted coordinates and user preferences [i.e. "a control panel interface"] specified by a user independently of the source and destination device profiles. (See Fig 2, Fig 3, col 2 line 20-31, col 6 line 37-54)

Swen et al does not specifically disclose that "generating a color map use of both converted coordinates produced by interpretation of source and destination device profiles and user preferences". However, such limitation is shown in the teaching of Lindbloom. (See p. 123, section 7.1. Color Mapped Applications) It would have been obvious to one skilled in the art to incorporate the teaching of Lindbloom into the teaching of Swen et al, in order to provide higher quality color reproduction/mapping with easy and user friendly manner, as such improvement is also advantageously desirable in the teaching of Swen et al for obtaining the closest CMMs, thereby producing optimized result.

Regarding claims 38, 41 and 44, claims 38, 41 and 44 are similar in scope to the claim 25, and thus the rejection to claim 25 hereinabove is also applicable to claims 38, 41 and 44.

Response to Arguments

Applicant's arguments with respect to claims 25-46 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (Central fax)

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

djc
December 26, 2003